Interview with Sadara Engineering Director, Khalid Al-Hamid

Q. One of your tag lines says "At Sadara, we seek to create value through chemistry." Can you explain what this means and why it is so important?

A. Sadara is the world's largest integrated chemical complex ever built in a single phase, with 26 state-of-the-art manufacturing units, over 3 million tons of capacity per annum and an investment of about US$20 billion. This will generate tremendous value to the Kingdom of Saudi Arabia with its unique portfolio of commodity and specialty chemicals which is made possible through our Mixed Feed Cracker (MFC), which is unique in the region, and the advanced technologies we have implemented. Sadara will help enable the diversification of the Kingdom's economy through driving further development of the downstream manufacturing industry in Kingdom, extending key value chains downstream and generating thousands of direct and indirect employment opportunities, both through the complex and through the adjoining PlasChem Park.

Q. Sadara is part of the world's largest integrated chemical complex ever built in a single phase, with 26 state-of-the-art manufacturing units. Some of these units will be introducing new products to the KSA including the first isocyanates and polyols (polyurethane) plants. What unique challenges do you see in introducing these products and what will you do differently to address those challenges?

A. While they are unique in KSA, Dow has been manufacturing them safely for many years. Sadara's success depends on bringing the same culture of safety from our shareholders, Aramco and Dow to Sadara. To achieve this, Sadara has trained close to 1,000 new hires, fresh and experienced, in existing Aramco and Dow facilities to gain hands on experience, with a particular focus on training and upskilling our employees on the safe management of these chemicals on a day to day basis. Sadara have also brought more than five hundred Dow and Aramco subject matter experts to KSA to work directly with the Sadara employees to develop and verify operating procedures, to teach Dow work processes related to process safety in design, operation, reliability and maintainability. Through continuous training, coaching and mentoring from Dow and Aramco experts, Sadara intends to meet these challenges which are new to the region.

Q. Can you share your thoughts on achieving Process Safety Excellence? What is being done to enhance process safety in the Middle East? At SADARA?

A. To achieve Process Safety Excellence, all aspects of process safety shall be recognized and get top management approval. This counts for all 14 aspects of process safety. With a well-developed Operating Discipline work process, which is followed and evaluated on a regular basis, not only can process safety excellence can be achieved, but the impact on the operations will be very visible from a personal safety, quality and production perspective.

Q. What areas of process safety do you feel the Middle East companies cover well?

A. Companies in the Middle East cover Loss Prevention and Fire Protection aspects of process safety very well.

Q. What do you feel are the biggest challenges facing industry today with respect to Process Safety competency, culture and retaining a knowledgeable workforce?

A. From a Process Safety competency perspective, it is important to recognize that refinery operations differ from those required in the petrochemical and chemical industry. The challenges and hazards are different, and these differences need to be recognized in the early stages of projects and addressed, with adequate operating discipline of the operation incorporated early on. Culture-wise, it is extremely important that operators of petrochemical and chemical facilities take ownership of the hardware and knowledge of the technologies used for production. Retaining a knowledgeable workforce in a developing and expanding petrochemical and chemical industry is probably the biggest challenge of all, and the training requirement for the people on the tasks they will need to deliver is crucial, and will provide a platform of excellence in performance basis that can be of value to other companies as positive case studies.

Q. SADARA is one of the sponsor organizations for the 3rd Global Summit on Process Safety. Can you tell us what your expectations are for the Summit? How many participants are you expecting to send from SADARA?

A. Sadara has 20 plus participants including keynote presentations, three presentations on different process safety topics and a Sadara exhibition booth to attract and encourage conference participants to seek out and discuss the issues and topics raised during the conference with our attending subject matter experts. Sadara's expectations were to participate with experts from different regions of the world to renew commitment to process safety, to gain and share an understanding of the different hazards and risks associated with our industry, and to learn from the practical experiences of others, as well as share their own experiences through one on one discussions.

Q. Does SADARA have any best practices relating to process safety that they are or can share with others in industry? If so, what are they?

A. Sadara uses basic risk assessment tools which were developed by one of our parent companies and are now available to the public. These tools can be used in the early phase of a project as well as through the entire life time of the facilities. The Fire and Explosion Index and the Chemical Exposure Index, both of which can be obtained through AIChE, are first level risk assessment tools. For more in depth risk assessment tools, Sadara uses PHAST, SAFETY, LOPA and HAZOP all of which are available to the public and are excellent assessment tools. Furthermore, tools with which the Mechanical Integrity of the installations can be defined and inspection protocols and frequencies can be developed for the life time of the facilities used by Sadara are also publicly available. Finally, a robust MOC process which recognizes and incorporates all necessary functions is an important tool used within Sadara.